than to the use of quinine. We have been as fully exposed to the malarious influence as any party is likely to be. The vessel in which we have had to navigate is one which takes in so much water that our beds are constantly damp, and often rotten beneath, with a quantity of water in the bilge of the ship. Yet we have found the fever quite amenable to treatment when taken early, and attention paid to any local congestions which may manifest themselves. Let it not be thought that we undervalue quinine, to it we trust for the removal of the disease when given after purgatives; in all forms of the fever we have found it of the greatest value, and three doses have always proved sufficient to induce the constitutional action even in those who have not been taking it previously.

"We have found the fever assuming a formidable type only when permitted to go on unchecked for some time in those exposed to great fatigue, damp, and poor diet, or when the irritable state of the stomach prevented the administration of quinine.

"In regard to the complications most frequently seen, among ourselves vomiting has been the most troublesome, and blistering over the stomach has seemed the best means of stopping it. We have fortunately escaped without more serious inflammatory lesions of the internal organs; but among the Portuguese two cases have been observed with pneumonia; both proved fatal—the tartrate of antimony seemed to have no effect, while stimulants were equally powerless when once sinking had commenced. Enlargements of the spleen, when of recent date, have yielded quickly to the use of the sulphate of iron and quinine.

"The ship's company, consisting of Krumen, have showed no greater immunity than the Europeans. The experiment of quinine was made with them, but its prophylactic action proved equally feeble as in our own case."

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10. *Specific Chemical and Microscopical Phenomena of Gouty Inflammation.*—Dr. A. B. Garrod, in a paper read before the British Association at its late meeting, remarked that many and discordant views were held concerning the nature of gouty inflammation, and such diversity of opinion arose from the fact, that, up to the present time, no characteristic structural change had ever been demonstrated to accompany it. The object of his communication was to supply that deficiency, and prove that special chemical and microscopial phenomena invariably attend true gouty inflammation. After alluding very briefly to the views held by the ancients, and within the last century by Murray, Forbes, and Wollaston, and by Cullen and his followers, and of the difficulties which each had to contend with in applying their hypotheses to the explanation of the various symptoms of the diseases, he proceeded to speak of his discovery of the constant presence of uric acid in the blood in gout, and his subsequent researches in the nature of that disease. From these he first drew the three following conclusions: 1. In *health*, the blood contains minute traces of urate of soda and urea, and probably of all the principles destined for excretion; but the quantities are so small, that the most careful and refined analysis is required to demonstrate their presence. 2. In *gout*, the blood is invariably rich in urate of soda, and uric acid can be readily crystallized from it. 3. In by far the greater number of diseases the blood is free from an abnormal quantity of uric acid, but in certain cases of albuminuria, lead-poisoning, and other affections, its presence can be demonstrated, and still no gouty inflammation ensue. Lastly, in many gouty subjects the same condition exists in the intervals of the paroxysms. From these conclusions, Dr. Garrod considered it evident that something more than the mere presence of urate of soda in the blood was required to produce gouty inflammation, and his next object was to ascertain its nature. For this purpose a careful examination of the joints which had suffered was required, and within the last few years many opportunities had fallen to his lot. The subjects of these examinations are divided into four classes. 1. Subjects of chronic gout with extensive chalkstones. 2. Subjects of gout with no appreciable deformity, and no visible deposits of chalkstones, except one or more specks on the external ear. 3. Subjects of gout in whom no trace of chalky matter was externally visible, and in one case only eight attacks of the disease had occurred. 4. Subjects in whom only a single joint (the ball of a great toe) had been affected with gouty inflammation, or in whom

some joint had only been once slightly inflamed. These examinations proved beyond the possibility of doubt, that in the very slightest forms of the disease, as well as the most severe, a structural change invariably occurs, and that this change, when once produced, remained, if not permanently, at least for a very lengthened time. After detailing the microscopical and chemical characters of the deposit producing this change, Dr. Garrod finished his communication by stating that he considered the facts which had been brought forward warranted him to conclude that—"Specific, chemical, and microscopical phenomena invariably accompany gouty inflammation, and these consist in the deposition of urate of soda in a crystalline form within the cartilages and ligamentous structures of the joints, and that such deposition is altogether pathognomonic, never being found in any disease other than true gout;" and again, that "Such deposition is probably the cause, rather than the effect, of the inflammatory action." Lastly, the author pointed out the great importance of ascertaining the true nature of the disease as a means of conducing to its rational and successful treatment.

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11. *A Brief Review of the Pathology of Angina Pectoris, with Cases.* By WM. B. MUSHET, M.D. It must be but seldom that a number of cases of angina pectoris are presented to one practitioner. Opportunities of autopsy, in fatal instances, must yet more rarely occur, the irregular paroxysmal character of the disorder conducing to its unfrequent appearance in hospitals and other public medical institutions, and, when encountered in private practice, the prejudices of relatives and friends for the most part opposing a barrier to inspections after death.

I therefore venture to publish the following cases, and previously to cite various eminent authorities as to the nature of the disease, the difference of opinion and statements amongst which, to my mind, leads to the irrefragable conviction, that we either know very little about its pathology, or that it is an *accidental phenomenon, independent of and superadded to* the special organic affections with which it has been observed to be associated. Dr. Heberden's description is generally regarded to be correct, as he was the first to draw attention to the disease, and his account is most usually followed, although it may be remarked that Dr. Parry and others differ from this physician as to the nature and symptoms of the malady in question.

According to Heberden (*Commentaries*, art. *Pectoris Dolor*) "There is a disorder of the breast marked with strong and peculiar symptoms . . . . not extremely rare. The seat of it, and sense of strangling and anxiety with which it is attended, may make it not improperly be called *angina pectoris*. Persons are seized whilst they are walking, more especially if it be up hill, and soon after eating, with a painful and most disagreeable sensation in the breast, which seems as if it would extinguish life . . . . but the moment they stand still all this uneasiness vanishes. . . . . Males are most liable to the disease, especially such as have passed their fiftieth year. . . . . Varieties may be met with. Some are seized standing still or sitting, or upon first waking out of sleep, and the pain sometimes reaches to the right arm, as well as to the left, and even down to the hands." Heberden saw nearly one hundred cases, one of which was in a boy of twelve. He believed it to belong to the class of spasmodic, not of inflammatory complaints. He adds, "In one case a very skilful anatomist could discover no fault in the heart, valves, or arteries, or neighbouring veins, in opening the body of one who died suddenly of the disease, except some small rudiments of ossification in the aorta."

Dr. Parry, of Bath (*Edinburgh Medical and Physical Dictionary*), differed from Heberden, and called the affection "syncope anginosa." He maintained, in the true disease, that there is neither dyspnœa nor palpitation of the heart, and that angina pectoris is a mere case of *syncope* or fainting, differing from common syncope only *in being preceded by an unusual degree of anxiety or pain in the region of the heart,* and in being *readily excited* during apparent health, by any general exertion of the muscles, more especially that of walking. He ascribed it to *ossification of the coronary arteries.*

Dr. John Wall, of Worcester, in a letter to Dr. Heberden in 1772, reminded